San Luis Drainage Feature Re-evaluation

Drainage Need

May 2002

Introduction

Determining the quantity and quality of drain water requiring disposal in the San Luis Unit is one of the important issues Reclamation is examining in the Feature Re-evaluation. Knowing the amount of acres requiring drainage allows Reclamation to design strategies to adequately mitigate the drainage problem.

This fact sheet describes Reclamation's preliminary evaluation of "drainage need" for the San Luis Unit. Reclamation developed the preliminary estimates presented here to identify ranges of drainage need and to develop preliminary options and alternatives and associated costs.

These estimates are based on studies completed in previous drainage studies. Future Re-evaluation steps will update and refine these estimates.

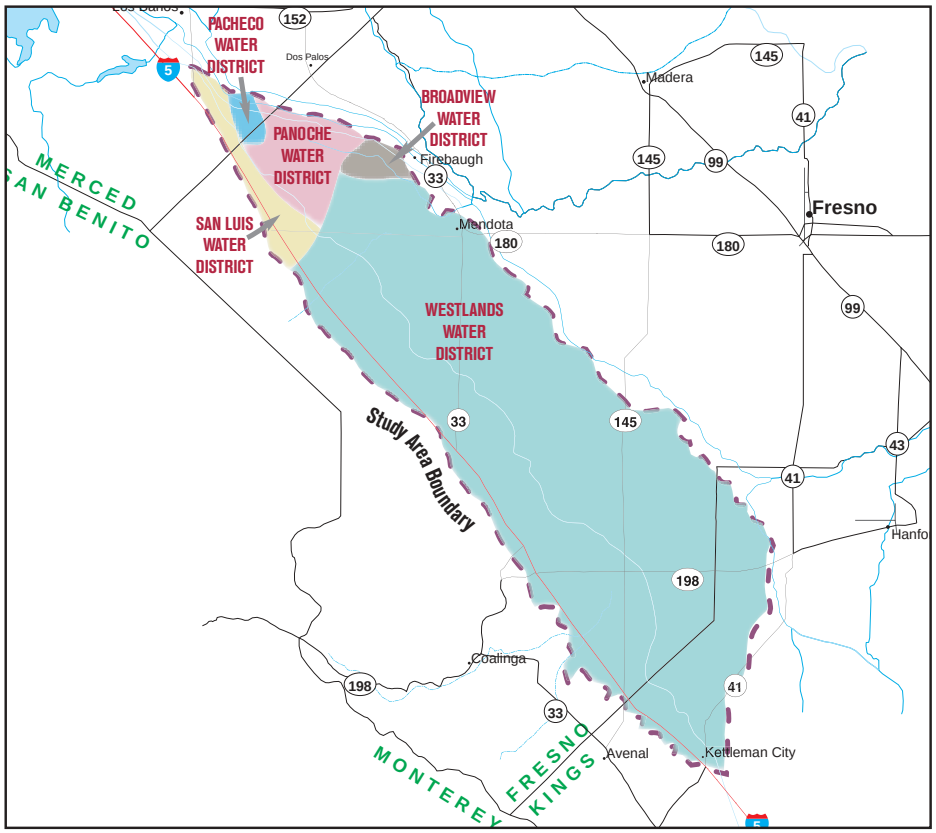
Disposing of drainage water has posed problems for farmers since the earliest days of irrigated agriculture. Unresolved, improper drainage will eventually rob even the best soil of its productive capacity. In the San Luis Unit improper drainage results in the dangerous accumulation of salt and water in the root zone of crops. Reclamation has identified almost 300,000 acres of land within the unit that face drainage challenges and require drainage service.

As part of the Re-evaluation process Reclamation will assess the lands of the San Luis Unit, and determine those that will be impacted without adequate drainage. Additionally, Reclamation will be assessing on farm practices that will help reduce the amount of overall drainage that any collections and disposal system will have to process. The results of this assessment will be a report defining the drainage need due to be released in the Summer of 2002. Once identified Reclamation will then use that information to further develop effective drainage solutions.

This fact sheet details Reclamation's effort to define and establish the drainage need for the re-evaluation process.

The general approach to quantifying drain water volumes involves determining the following parameters.

- Drainage service area
- Drained area (acreage within the drainage service area that would actually have tile drains installed)
- Drainage rate or average flow of drain water discharged from the drained area.



The map shows the water districts that define the San Luis Unit. Reclamation is considering this as the minimum solution area. Areas outside te San Luis Unit may be considered for part of the drainage services as appropriate

Drainage Service Area

The San Luis Unit includes 713,000 acres (603,000 in the Westlands Water District and 110,000 in Northern San Luis Unit Districts).

Drained Area

Studies in 1983 estimated that 293,000 acres in the San Luis Unit require drainage service to maintain agricultural productivity. As part of this Feature Re-evaluation, Reclamation will use these previous estimates and projections for the rate at which farmers would be expected to install tile drain systems to collect drain water. The potential drainage service area could also be affected in the future by planned and proposed land retirement programs in the San Luis Unit and the San Joaquin Valley. The CALFED Bay-Delta Program includes a voluntary land retirement program of up to 35,000 acres of farmland in the Central Valley. The Central Valley Project Improvement Act also provides for voluntary land retirement, and to date has retired 15,000 acres. Also, the Westlands Water District has proposed a program to retire up to 200,000 acres of farmland in the San Luis Unit to address water supply needs and agricultural drainage issues. As part of the Feature Re-evaluation, Reclamation will evaluate these land retirement programs and their potential effects on drainage need.

Drainage Rates

The amount of drain water from each acre in the drained area depends on a number of factors, including water supply, irrigation methods, and on-farm drainage management activities. Each of these is influenced by the complex economic factors for farming, such as crop prices, water and energy costs, equipment costs, farm production costs, and crop yields. Each farmer considers these factors when selecting irrigation systems, water management techniques, and which acres and crops to plant. Based on previous studies, Reclamation identified a preliminary range of average drainage rates for the San Luis Unit. Reclamation estimates that drainage rates will be between 0.3 and 0.5 acre feet per acre per year. The high end of the range is based on current on-farm drainage management approaches. The low end of the range is based on implementation of the best available on-farm management approaches and technology.

Contact us!

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